

Leiomyoma Arising from Septum of Nose

G. N. Purohit · Navneet Agarwal · Ritu Agarwal

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Abstract Leiomyomas are benign tumours which are presumed to arise from vascular smooth muscle in the nasal cavity. They are rare in nasal cavity but are commonly encountered in GIT, female genital tract (uterus). The rarity of these tumours in nasal cavity is evident from the fact that less than 45 cases have been reported till date. We report a 45 years old male with Leiomyoma of the nasal cavity with brief review of literature.

Keywords Leiomyoma · Nasal Septum

Introduction

Leiomyomas are benign tumours usually presenting as painless mass. The nasal cavity is a rare site for the occurrence of these tumours. Less than 35 cases of Leiomyomas have been reported till date. They are thought to arise from smooth muscle cells in the walls of the blood vessels. Simple Surgical excision gives complete cure and recurrences are very rare. We are presenting this case because:

1. Leiomyomas of nasal cavity are rare tumours.
2. Leiomyomas of nasal cavity mainly arise from the lateral wall of nasal cavity but in our case it was arising from the septum.
3. Leiomyomas are commoner in females whereas we found the case in a male patient

Case Report

The patient S R a 45 years Hindu male, farmer by occupation was admitted in E.N.T. Ward with complaints of nasal obstruction (L) since 3 years which was progressively increasing. The patient did not give any history of bleeding from the nose, nasal discharge, deformity of face.

On examination, a soft mass was seen filling the (L) nostril which did not bleed on touch, non tender, non reducible. The mass was attached to the septum near the junction with the roof of the nose. The surface of mass was smooth (Fig. 1).

The CAT Scan of Nose and PNS showed mass confined to the Nasal cavity with no extension into the Sinuses or Nasopharynx. There was no bone destruction.

The Other Investigations were Within Normal Limits

The mass was excised under General anaesthesia by Lateral Rhinotomy Approach (Fig. 2). It was arising from the septum. The base of the mass was cauterized.

The Post Operative Recovery was Normal

The excised mass was sent for Histopathological examination which showed spindle cells arranged in whorl pattern suggestive of Leiomyoma (Fig. 3).

Discussion

Leiomyomas are benign smooth muscle tumours that are common in alimentary tract, uterus, skin and subcutaneous tissue but uncommon in upper respiratory tract and even more rare in nasal cavity and PNS. The first case report of

G. N. Purohit · N. Agarwal (✉) · R. Agarwal
Dr. S.N. Medical College, Jodhpur, India
e-mail: drnavneet_agarwal@yahoo.co.in



Fig. 1 Clinical photograph of the patient



Fig. 2 Intra-operative photograph of the case

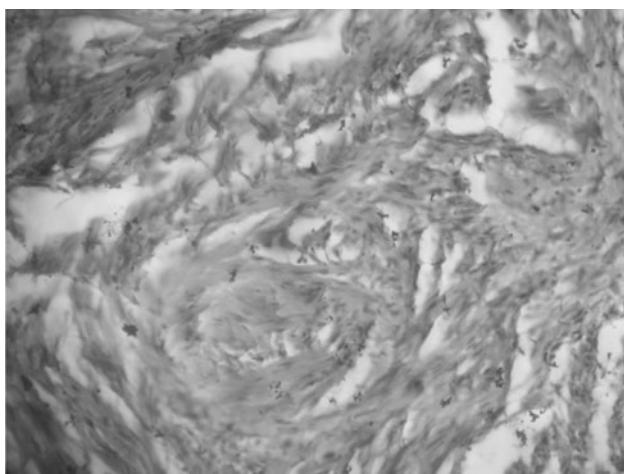


Fig. 3 H&E Section $40\times$ Leiomyoma showing Whorling pattern

intranasal Leiomyoma was in 1966 by Maesaka et al. [13] and it was a Angioleiomyoma.

Till 2004, only 23 cases of Sinonasal Leiomyomas had been published in literature [1, 3, 15] whereas [11] have reported the occurrence of only 30 cases in English

language literature and 49 cases in Japanese literature. In a study of 256 cases of non epithelial tumours of nasal cavity and PNS, only 8 mesenchymal tumours were seen out of which two cases were Leiomyomas and 6 cases were Leiomyosarcoma [8].

In a study of 7748 cases of Leiomyomas, Enzinger and Weiss [7], found 95% of cases were seen in female genital tract, 3% in skin, 1.5% in GIT and the remaining 0.5% in other sites including Nasal cavity and PNS.

Hacisuga et al. [10] in a study of 562 cases of Vascular Leiomyomas over a period of 17 years saw only 48 cases in Head & Neck and only 5 in nasal cavity.

Hatch et al. [9] have stated that only 139 cases of Leiomyomas of Oral cavity and Pharynx have been reported till date.

We have been able to locate 39 cases of Leiomyomas included the present case (Table 1).

The rarity of Leiomyomas in Nasal cavity and PNS is due to lack of smooth muscle fibres in the these locations. In the nasal cavity, these tumours are presumed to arise from

1. Aberrant Undifferentiated Mesenchyme
2. Smooth muscle elements in walls of blood vessels
3. Both of above

Leiomyomas are more commonly seen in females (M:F::1:3.75). Lateral nasal wall is the more common site of origin of Leiomyomas, the commonest site being the inferior turbinate [14]. The high incidence of these tumours on the inferior turbinate is due to the presence of large amount of vascular tissue on the turbinate.

These tumors grow slowly and may persist for a long time. According to the literature, the most common symptoms are nasal obstruction (56.25%), epistaxis (56.25%), facial pain (25%) and headache (25%).

In recent years sex steroid receptor (progesterone receptor positive and oestrogen receptor negative on immunohistochemical analysis) have been identified on Leiomyomas which suggests that growth of these tumours may be hormone dependent [14]. This can explain the higher incidence in females.(Male:Female :: 1:3.75).

The Leiomyomas have been classified into [2]:

1. Leiomyoma (solid leiomyoma)
2. Angiomyoma (vascular Leiomyoma; Angioleiomyoma)
3. Epithelioid Leiomyoma (leiomyoblastoma)

The Leiomyomas must be differentiated from Neurofibromas, Angiofibromas, Schwannomas, Myofibromas, Leiomyosarcomas. In cases of histopathological controversy, immunohistochemical markers like muscle specific Actin, Desmin, Myoglobin, S-100, Vimentin can be used [14].

The Immunohistochemical markers, mitotic rate, cellular atypia, infiltrating margins help in histopathological

Table 1 Previous cases of leiomyoma of the nasal cavity and paranasal sinuses (modified from Osaki et al. (2002), Campelo et al. [6])

Author(s)	Year	Location
1 Maesaka et al. [13]	1966	Vestibule
2 Ram	1971	Inferior turbinate
3 Schwartzman and Schwartzman	1973	Sinuses and nasal fossa
4 Wolfwitz and Schmaman	1973	Inferior turbinate
5 Kotaka and Furuya	1973	Nasal cavity
6 Timirgaleev	1973	Nasal septum
7 Fu and Perzin [8]	1975	Nasal cavity
8 McCaffrey et al.	1978	Inferior turbinate
9 Kambayashi	1978	Vestibule
10 Papavasiliou and Michaels	1981	Middle turbinate
11 Lijovetzky et al.	1985	Vestibule
12 Daisley	1987	Middle turbinate
13 Tang and Tse	1988	Inferior turbinate
14 Hanna et al.	1988	Inferior turbinate
15 Nam et al.	1988	Vestibule
16 Zijlker et al.	1988	Ethmoid
17 Ragbeer and Stone	1990	Nasal floor
18 Sawada	1990	Vestibule
19 Barr et al.	1990	Nasal septum
20 Van Ingen et al.	1991	Choana
21. Harrison et al.	1993	Ethmoid
22 Harcourt and Gallimore	1993	Ethmoid sinus
23 Khan et al. [12]	1994	Inferior turbinate
24 Llorente et al. [15]	1996	Nasal septum
25 Ardekian et al.	1996	Nasal septum
26 Trott et al.	1996	Inferior turbinate
27 Nall et al.	1997	Superior turbinate
28 Malgarejo et al.	1997	Inferior turbinate
29 Murono et al.	1998	Inferior turbinate
30 Horie et al.	2001	Nasal septum
31 Bloom et al. [5]	2001	Nasal septum
32 Osaki et al.	2002	Nasal septum
33 Campelo et al. [6]	2003	Inferior turbinate
34 Kumar et al. [18]	2004	Lateral wall
35 Taft et al. [17]	2005	Inferior turbinate & PNS
36 Bel et al. [3]	2005	Lateral wall
37 Agarwal et al. [1]	2005	Lateral wall
38 Present case	2008	Nasal septum

diagnosis and determining their malignant potential. Campelo et al. [6] were of the opinion that the immunohistochemical markers were not necessary for diagnosis.

The careful assessment of mitotic activity, infiltrating margins, and coagulative tumour necrosis still remains the main criteria to determine the malignant behaviour of leiomyogenic neoplasms [16].

Blauster has given the following criteria for diagnosis of Leiomyomas.

Histological features for diagnosis of smooth muscle tumours		
Mitotic figures/10 HPF	Cytological atypia	Diagnosis
0–4	—	Cellular Leiomyoma
0–4	+	Atypical Leiomyoma
5–9	—	Uncertain malignant potential
5–9	+	Leiomyosarcoma
10 or more	−/+	Leiomyosarcoma

Treatment for these tumors is based on local resection, and there are no reports of recurrence after excision. Bloom et al. [5] reported a case of spontaneous tumor recurrence after thorough surgical excision. This event shows potential recurrence after incomplete resection and the need for complete excision in order to guarantee a definitive treatment. Surgical approach choice, by endoscopic surgery or by lateral rhinotomy, will depend on tumor location and extension, as well as the need for a better bleeding control.

Recurrence is rare. There are only a few cases of recurrence reported in literature [12].

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